Tesslor™

R-601S OWNER'S MANUAL

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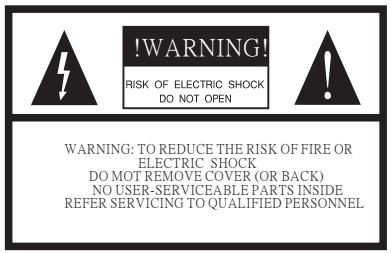
Caution Statements

WARNING: TO PREVENT FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE TO RAIN OR MOISTURE


!WARNING!
RISK OF ELECTRIC SHOCK
DO NOT OPEN
WARNING: TO REDUCE THE RISK OF FIRE OR
ELECTRIC SHOCK
DO MOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combi-nation to overtum.

The lightning flash with arrow head symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk electric shock to persons

the exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature acconpanying the appli-ance

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THE THREE WIRE CORD WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

To Zeng, a high quality radio, like the ones many people grew up with, have a special place in their heart. In China, the famous wood radios of the past were brands like Panda, Red Lantern and Shanghai and are similar to the overseas brands like Grundig and Telefunken. Zeng still owns the vintage Kaige 455D tube radio he purchased in 1971 along with its original receipt and the radio remains a prized possession to he and his family even today. While he had thought many times of designing and manufacturing radios, it was during an invitation to a Guangdong radio station interview, where he saw many vintage radios on display that he decided to start work on a new model.

That decision was the start of a new chapter in Zeng's life and a long journey that brings us to today's Tesslor™ brand of radios. Since Zeng had set a very high standard for himself and his products, the process of developing the new radios faced many obstacles, much trial and error, many special circuit designs, many technical challenges solved and the awarding of several patents along the way. As new models rely heavily on R&D costs, special tooling, and special manufacturing processes, even small items such as knobs, buttons and small parts must be made from scratch in small batches and at a high cost.

The result of Zeng's exceptional vision and efforts is a line of ten products unlike anything in the marketplace. The designs, philosophy, technology and manufacturing process are a blending of old and new. Even the 60 day-long process of forming, curing and finishing the wood cabinets is from another age. It's almost as if Zeng somehow reached back to the time of his youth to craft a radio that spans two different eras. In doing so, Zeng has created a product that has the spark of the modern age but the soul of a vintage radio.

Unlike mass produced consumer products, your Tesslor™ radio is truly hand crafted. They are made by people who hope they become as prized a possession as the beautiful wood radios of the past. In a world where consumers know little about the people who make the things they use, we share this story of Zeng and his vision to produce something unique and beautiful. We hope you enjoy your Tesslor™ radio as much as the people whose passion brought these products to life.

The Tesslor™ Story

Zeng DeJun is a well-known name in the Chinese audio industry where his reputation as a designer, teacher, entrepreneur and business man is legendary.He's the designer of China's first Hi-Fi vacuum tube amplifier, a founding member of the nation's Hi-Fi vacuum tube industry and designer of many lines of hi-end multimedia speakers and numerous Hi-Fi products with cult followings in Asia. In 1994, Zeng founded the Shenzhen V.A.L. Technology Co., Ltd. to finally pursue a lifetime goal of manufacturing a line of unique Hi-Fi retro radios based on the classic wooden receivers of his youth that first kindled his love of radio.

Some of Zeng's earliest memories as a child are of the beautiful wood radios in his home that brought voice and music and sparked his curiosity towards science and technology. He recalls that as a young child he asked how such a box could do such magical things but received no clear answer. One day, when no others were around, he opened the back cover of the radio but could not find the small people he had imagined were inside. All he saw were the glowing bulbs (tubes) and lumps of iron (transformers). His parents couldn't explain how the radio worked and told him that when he grew up and studied, he would be able to understand.

Thus began Zeng's lifetime love and curiosity in radio and science. In school and led by teachers and others, he began to assemble simple crystal radios and more sophisticated versions. Growing up in a remote area, radio was both the fastest and most effective way to learn of news and information from the outside world. Later, as a new recruit in the Army, he found and repaired a faulty transistor radio for a superior who was so impressed that he gave Zang the option of choosing the specialty for which he'd receive advanced training. Zang chose the communications corp where he was quickly trained for radio communications. Always curious and inventive, he found existing military radios heavy and outdated so he set about designing and building lightweight versions that earned him an Outstanding Innovation Award and a transfer to the army research institute. Later, he was sent to Beijing University to study where he became a professor and a new phase of his life began.

Over many years and many changes in his life, Zeng found radio programming and music to be a close companion that gave him strength to pass difficult times and challenges. Having spent many years in the audio industry, Zeng is familiar with high quality music systems and CD players but prefers the fresh music selection and information found on radio. He prefers to work in an office with a good table radio and, in part, this is one reason why he dreamed of designing and manufacturing a quality radio set like the ones he recalled from his youth. Having designed and built the first commercial Hi-Fi vacuum tube amplifiers as well as the Hi-End brand of V.A.L. tube amplifiers, he had often thought of designing high quality table radios, and saw this as an area no other companies had pursued.

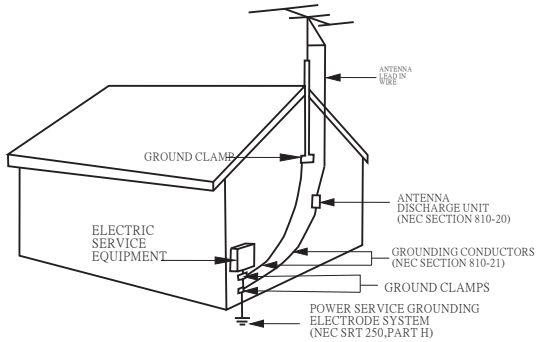
Important Safety Information

1. Read instructions – all the safety and operating instructions should be read before the product is operated.
2. Retain Instructions – the safety and operating instructions should be retained fo future reference.
3. Heed warnings – all warnings on the product and in the operating instructions should be adhered to.
4. Follow instructions – all operating and use instructions should be followed.
5. Cleaning – unplug this product from the wall outlet before cleaning. Do not us liquid cleaners or aerosol cleaners.
6. Attachments – do not use attachments that are not recommended by the product manufacturer as they may cause hazards.
7. Water and Moisture – do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink or laundry tub. Do not use it in a wet basement, near a swimming pool and the like.
8. Accessories – do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Any mounting of the product should follow the manufacturers instructions.
9. Antennas – use only the antennas recommended by the manufacturer and exercise extreme care and caution in placing the antenna in a safe and stable location. Antenna cords inside the home should be carefully mounted to prevent access and injury to children. External antennas must be mounted and installed using the antenna manufacturers specific instructions.
10. Ventilation – slots and openings on the product are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings should never be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. The product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. Power Source – this product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult the product dealer or local power company.
12. Grounding or Polarization – this product is equipped with a polarized alternating current type plug (a plug having one blade wider than the other and with a third, rounded ground plug. This is a safety feature designed to ensure the product correctly attached to your power source and your ground. If the plug does not fit your outlets, locate the product near a compatible outlet or consult with a qualified electrician regarding your power source and outlets. Do not defeat the purpose the polarization and grounding safety features.
13. Power Cord Protection – your power cord should be routed in a manner to ensure it is not pinched by other items or furniture and not walked on. Pay particular attention to ensure the power cord is fully inserted into the product and that the cord is not bent or pinched where the cord exits the product.
14. Outdoor Antenna Grounding – if an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regarding to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding electrodes, and requirements for the grounding electrode.

15. Lightning – for added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
16. Power Lines – an outside antenna should not be located in the vicinity of overhead power lines, other electric light or power circuits, where it can fall into such power lines or circuits. When installing an outside antenna system, use extreme care to prevent the installer or antenna from touching power lines or circuits, as contact with them may be fatal.
17. Overloading – do not overload wall outlets, extension cords, or power outlets as this can result in fire or electric shock.
18. Object and Liquid Entry – never push objects of any kind into this product through the openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquids of any kind on the product. Prevent any flammable materials, such as curtains, drapes or other materials from being positioned on or near the product.
19. Servicing – do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage and other hazards. Refer all servicing to qualified service personnel.
20. Damage Requiring Service – unplug the product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power-supply cord or plug is damaged
    b. If liquid has been spilled, or objects have fallen into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally when following the operating instructions.
    e. If the product has been dropped or damaged in any way
    f. When the product exhibits a distinct change in performance. This indicates the need for service.
21. Replacement Parts – when replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock and other hazards.
22. Safety Check – upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
23. Heat – the product should be located away from heat sources, such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Figure A
Example of antenna grounding as per National Electrical Code, ANSI/NFPA 70

NOTE TO CATV SYSTEM INSTALLERS:
THIS REMINDER IS PROVIDED TOI CALL THE CATV SYS TEM INSTALLER'S ATTENTION TO ARTICLE 820-40 OF THE NEC THAT PROVIDES GUIDELINES FOR PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC SRT 250,PART H)

NEC-NATIONAL ELECTRIC CODE

FAQs

How Do I Improve Radio Reception?

The most common issue with radio reception is related to the location of the radio receiver and the use of the proper antenna. If you experience weak signal reception, try using both the internal antenna and the supplied external antenna. Be sure to select the correct antenna using the AM or FM antenna selector switches located on the rear of the cabinet. Try adjusting the location and orientation of your antenna. Also, try moving your radio to a location where you receive stronger signals. For optimum performance, consider an external FM antenna for peak signal reception. See your dealer for additional antenna options.

How Do I Use An MP3 Player With My Radio?

To use an external audio player, you will need an adapter cable for your MP3 player, PC or other audio device (not included). The rear case of the radio has an AUX IN jack (RCA female jack) where you will connect the adapter cable from your audio source. Turn the Band switch on the front of the radio to the AUX position and carefully adjust the volume level of your audio source for prevent distortion as your audio device is amplified by the radio's tube amplifier and played from the radio speaker.

Troubleshooting

Trouble	Symptom	Possible Causes	Solutions
No sound	1. Backlight does not work 2. No signal or weak signal	1. power turned off 2. power cord loose 3. Fuse blown 4. Wall outlet not working 5. Internal failure	1. Check on/off/volume knob 2. Check that power cord is fully inserted. 3. Replace blown fuse 4. Tune other stations, check antenna, check antenna selector switch 5. Contact technician for repair
Distortion	Noisy or scratchy audio	1. Station not tuned correctly 2. Volume too high	1. Fine tune station signal 2. Adjust volume 3. Check antenna connection,try internal or external antenna
Noisy Audio	1. Hissing or buzzing sound 2. Unable to find clear signal	1. Wrong antenna selected 2. Interference from nearby electronic device 3. Internal failure	1. Double check antenna connection and antenna selector switch, use external antenna. 2. Switch off or move radio away from nearby electronic device 3. Contact technician for repair

Basic Operation

Turning On and Off

Turn the knob clockwise to turn your radio ON. You will hear a click indicating that the switch has been turned on or off. The radio main dial backlight will illuminate and the Magic Eye indicator will slowly turn on in about 10 seconds. Remember that your tube radio takes a few moments to warm up before you will hear sound from the speaker.

Adjust the volume control clockwise to increase volume and counter-clockwise to reduce volume. To turn the radio off, turn the volume control fully counterclockwise. You will hear a click as the radio turns off. The radio dial backlight and Magic Eye will turn off.

Band Switch

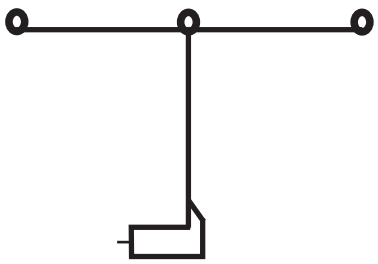
Select AM or FM using the band selector switch. In the AM position, the radio will receive AM stations (540 – 1700 KHz). In the FM position, the radio will receive the FM band (87.5 – 108 MHz). The AUX position is used to play external audio sources connected to the radio using the rear-mounted AUX IN socket (such as PC, CD or MP3 players).

Select your desired band and then adjust the Main Tuning Knob to receive your desired station.

Tuning Desired Stations

The Main Tuning Knob is used to tune and search for radio stations on the selected band. Adjust the Knob to receive the desired station. Note that FM stations are referenced on the LEFT side of the main dial using the RED line on the LEFT side of the Main Tuning Knob. When receiving AM stations, refer to the RIGHT side of the main dial using the RED line on the right side of the Main Tuning Knob.

As you turn the Main Tuning Knob you will note that the Magic Eye changes to show you when stations are properly tuned.



FM external antenna fixation method

Important Disclaimer

DO NOT submerge or expose any part of this product to water or other liquids. Components are NOT water resistant and will be damaged by water

For best long term results, turn on your radio at least once a month and operate it for at least one hour to heat uo the circuits and remove internal moisture that may have accumulated from long periods of inactivity.

Proper ventilation of the radio us important for safe operation. Ensure that the radio is placed in a dry location where it is well ventilated during operation.

If the radio in being returned to service after long term storage, place it in a dry and well ventilated location for several days before attempting to operate it. Moisture inside radio circuits is know to cause electrical short circuits. Should your radio ever make a hissing sound, or you see sparks or other signs of an electrical problem, unplug the radio and consult a qualified repair person for assistance. Never attempt to open, inspect or repair the radio yourself.

KEEP AWAY FROM CHILDREN

Components may contain small parts that can be broken and disassembled or components, cords, antennas or other parts may become loose or exposed. Small parts and packaging materials may become a choking hazard for small children.

HIGH VOLTAGE

This product uses household current and high voltage. There are no user serviceable parts inside the cabinet. DO NOT OPEN THE REAR CABINET FOR SERVICING OR ADJUSTMENT. ONLY QUALIFIED PROFESSIONAL REPAIR ORGANIZATIONS HAVE THE TOOLS AND TRAINING TO SERVICE THE PRODUCT.

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Rear Panel Connections

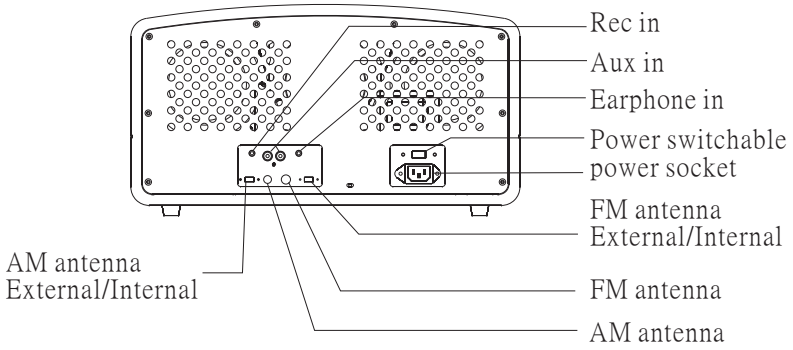


Figure 2

Power Cord	Plug your wall outlet cord into the radio. Press firmly to ensure a good connection. Note that your wall cord is a polarized and grounded cord. For safety, always use a grounded wall outlet with this radio.
AM Antenna Selector (external / internal)	Selects either the built-in internal antenna or the external antenna. When placed in the external position, the supplied AM loop antenna should be attached to the adjacent AM antenna jack.
External AM Antenna	RCA female jack for connecting the external AM loop antenna. Use the external AM antenna for best reception results. Adjust the antenna location for optimum signal reception.
FM Antenna Selector (external / internal)	Selects either the built-in internal antenna or the external antenna. When placed in the external position, the supplied FM dipole antenna should be attached to the adjacent FM antenna jack.
External FM Antenna	F jack for connecting the supplied external FM dipole antenna. When using the dipole antenna, securely attach the antenna connector, extend the antenna to its full width and adjust the position for best signal reception.
REC OUT	For connecting the received audio signal to an external source for recording or other use.
AUX IN	For connecting external PC, CD or MP3 players. When using this connection, turn the front panel band switch to the AUX position to permit the radio to amplify and play external audio sources.
Headphones (symbol here)	For connection of headphones. When this 3.5mm jack is connected to headphones, the front facing speaker is disconnected to permit private listening.

Controls Overview

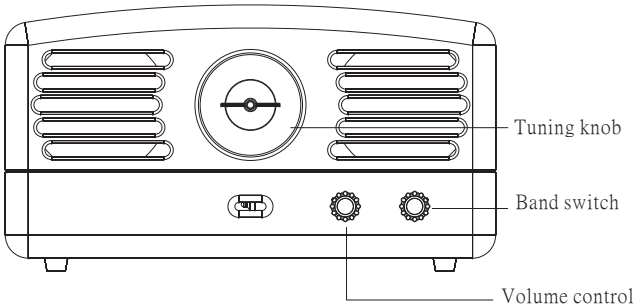


Figure1

Volume Control

The power switch serves as both your on/off power control and the volume control knob. Turn the knob clockwise to turn your radio ON. You will hear a click indicating that the switch has been turned on or off. Adjust the volume control clockwise to increase volume and counter-clockwise to reduce volume.

Band Switch

The band selector switch is used to select the AM, FM or AUX functions. In the AM position, the radio will receive AM stations (540 – 1700 KHz). In the FM position, the radio will receive the FM band (87.5 – 108 MHZ). The AUX position is used to play external audio sources connected to the radio using the rear-mounted AUX IN socket(such as PC, CD or MP3 players).

Main Tuning Knob

The tuning knob is used to tune and search for radio stations on the selected band. A precise 5:1 tuning dial is designed to fine tune weak signal and make long-distance listening much easier.

Introduction and General Description

Thank you for selecting Tesslor™ products. We strive to produce the best sounding classic tube radio receivers available anywhere. With proper care, your radio will provide many years of reliable service.

This manual provides an overview of your new radio and includes many IMPORTANT safety and operating notices. Please take a few minutes to read it fully and familiarize yourself with your new radio. Also remember to register your radio to activate your warranty.

General Description

Your Tesslor™ radio combines the best of modern electronics, classic design and vacuum tube technology to produce a radio receiver with superior audio performance.

Where radio manufacturers in the 1940's and 1950's produced many fine quality radios using tubes, your Tesslor™ takes advantage of modern electronic component to improve radio reception sensitivity, selectivity and rejection of interference. Combined with vacuum tube pre-amplification and final amplification, your Tesslor™ produces an uncommon level of audio performance not found in modern radios.

Your Tesslor™ radio incorporates modern electronics for the analog receiver circuitry and adds tubes for amplification. A 6F2 vacuum tube acts as the pre-amplifier coupled to a pair of 6P1 vacuum pentode tubes in a push-pull arrangement as final amplifiers. Producing 7 watts of output power, the amplifier is matched to a high-quality speaker to ensure you experience the warmth and resonance produced by the vacuum tubes.

The receiver's RF circuit design includes a number of state-of-the-art innovations designed to provide improved sensitivity while maintaining sharp selectivity, resulting in unusually clear reception for weak and remote stations. The tuner dial itself is finely engineered to provide a strong tactile response when tuning, resulting in a very smooth and positive rotation to assist station selection.

Often found on classic wooden radios of yesteryear, your Tesslor™ includes a 'magic eye' vacuum tube to aide in tuning radio stations. Visible on the front panel, this tube glows a green color and changes shape as you fine tune radio reception.

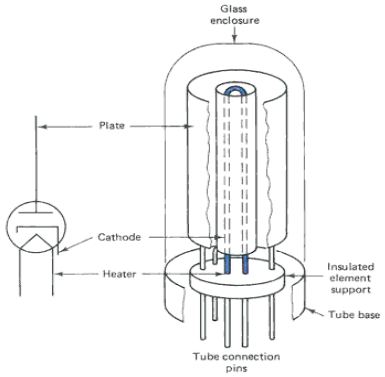
Front panel controls include an on/off switch combined with the radio's volume control, a large, smooth-action tuning knob with back-lit dial and a band selector switch to select the AM and FM bands or the Auxiliary input. The Auxiliary input permits you to connect a digital music player or other audio source into your Tesslor™ radio for tube amplification.

Internally, your Tesslor™ radio incorporates magnetic shielding to isolate and prevent potential interference and improve radio performance. Compartments created inside the radio provide additional shielding and help remove vacuum tube heat from the housing.

The radio cabinet itself is hand crafted and finished using MDF materials in a manner similar to the hand finishing found in radios produced in the 1950's. The cabinet is formed and cured in a multi-step and lengthy 60 day process that ensures the cabinet withstands the heat created by the radio's tubes and provide a lifetime of service.

Controls on the radio's rear panel include two slide switches to select internal or external AM and FM antenna options, RF jacks for audio input and audio output and a 3.5mm audio headset jack. Antenna jacks on the rear case include an RF jack for the included AM external antenna and an F-connector jack for the included external FM dipole antenna.

Introduction to Tube Radio Receivers



our Tesslor radio is unlike most radios you may have owned and used. Please take a few moments to review the following important information about your radio.

Warm-Up Time

Your radio uses vacuum tubes to amplify the received radio signals (or audio input, when using the 'Aux' mode). Tubes take a short time to warm up and reach operating temperature. You can expect your radio to take a few moments before producing any sound. During this time, the dial will light up but no sound will be heard. Gradually over 10 to 15 seconds, as the tubes reach operating temperature, you will hear sound and see the 'magic eye' tube illuminate. You may then tune your desired station and adjust the volume level for your desired loudness.

Re-Tuning

During the initial 10 or 20 minute period of operation, as the radio warms up, you may need to fine-tune your received station for best sound.

Placement and Operation

As your radio uses vacuum tubes and has a wood cabinet, be sure to place your radio in a location where it has adequate ventilation and is not exposed to rain or excessive moisture. Be sure to place it where children or pets will not pull on its power cord or antennas. Remember to turn off your radio when not in use

Tube Life

Modern vacuum tubes will provide many years of reliable service. The tubes in your radio are rated at 1000 to 2000 hours of service and are readily available from multiple sources. Should you have any question about your radio's performance, contact your Tesslor dealer or an experienced local electronics repair facility.

High Voltage

Your radio tubes operate using high voltage. Do not attempt to adjust, repair or fix your radio. Do not remove the rear case as there are no owner-serviceable parts inside the case. Should you need service, please contact your Tesslor dealer or an experienced local electronics repair facility.

Specifications

FM Band: 88 MHz-108 MHz
AM Band: 540 KHz-1600 Khz
S/N Ratio: FM >45dB, AM > 35dB
Receiver Sensitivity: FM < 5 uV; AM < 1.5 mv
Noise Sensitivity: FM < 16 dB (s/n=30 dB); AM < 60 dB (s/n=20 dB)
Distortion: FM < 0.5%, AM < 1%
Single Signal Selection: > 30 dB
Tube Amplifier : 6P1 x2Push-Pull
Output Power: >2 x3.5W
Frequency Response:30Hz-20KHz
Vacuum Tubes: Amplifier - 6P1 x 1, Pre Amplifier – 6N2 x 1, 6F2 (Magic Eye)
Speaker Unit: 5”
Rated Power: >3.5W
Speaker Impedance: 4Ω
Frequency Response: 70 Hz-16 KHz
Input Ports: Antenna In & Aux In
Output Ports: Earphone Out, Audio Out
Product Size: 43(L) x 18(W) x 21(H) cm

Features:

Four Vacuum Tube design for high fidelity audio
Magic Eye tuning aide
FM / AM band operation
Warm & rich sound effect
Audio input from external sources (PC, CD, MP3 players)
Magnetically shielded drivers. Case design virtually eliminates monitor and TV screen interference
Audio out and headset jacks
Selectable internal or external antennas for both AM and FM reception
Hand-finished all MDF wood enclosures
High quality smooth tuning main dial and backlit panel
Unique, uncommon, classic & elegant appearance
Matte paint finish reminiscent of 1950's classic designs

Packing List:

Radio
Power Cord
User Manual and Warranty Card
External FM dipole antenna
External AM loop antenna
Spare fuse